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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,488	01/06/2004	Susanne Klein	30002178-4	3532

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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

CALEY, MICHAEL H

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,488

Applicant(s)

KLEIN, SUSANNE

Examiner

Michael H. Caley

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on AF Amdt 9/28/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter Withdrawn

The indicated allowability of claims 1-7 is withdrawn in view of the newly discovered reference(s) to Pollack et al. (U.S. Patent No. 3,980,396 "Pollack"). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Pollack et al. (U.S. Patent No. 3,980,396 "Pollack").

Regarding claim 1, Pollack discloses a display comprising:

- a display area (Figure 4); and

- a light guide for providing light to the display area, the light guide comprising:

- a planar light guiding medium (Figure 4 element 4) formed of liquid crystal material (Column 2 line 61) and having a light emitting surface (Figure 4, facing eye) and a side face disposed around the light emitting surface;

- a plurality of light pipes (Figure 4 element 7; Column 10 lines 16-28), each light pipe having a collector end for collecting light and an output end, the

output ends being arranged along the side face so as to introduce the collected light into the guiding medium;

wherein the output ends of the light pipes are distributed along the side face.

Regarding claim 2, Pollack discloses the collector ends of the light pipes as distributed over a light collecting area and wherein the position of the collector ends on the light collecting area is scrambled relative to the position of the corresponding output ends on the side faces of the light guiding medium (Column 10 lines 16-29).

Regarding claims 4 and 7, Pollack discloses means as provided for applying an electrical signal to the guiding medium in one or more localized areas (Figure 4 elements 2 and 5); and, the guiding medium as responsive to the electrical signal such that the optical properties of the optical medium are changed in each localized area where the electrical signal is applied, with the result that in the localized areas wherein the electrical signal is applied, light traveling along the guiding medium exits the guiding medium through the light emitting surface (Column 4 lines 11-28), and where the electrical signal is not applied, light within the light guiding medium is channeled therealong (Column 4 lines 6-11).

Regarding claim 6, Pollack discloses the light pipes as formed from optic fibers (Column 10 line 21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack in view of Margerum et al. (U.S. Patent No. 5,099,343 "Margerum").

Pollack discloses the light guiding medium as having a planar back surface (Figure 4 element 4). Pollack fails to disclose a reflecting layer as provided on the back surface of the light guiding medium. Margerum, however, teaches an edge illuminated liquid crystal display analogous to the display disclosed by Pollack that utilizes a reflecting layer on the back surface of the liquid crystal light guiding medium (element 33; Column 4 lines 40-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reflecting layer on the back surface of the light guiding medium in the display device disclosed by Pollack. Margerum teaches a reflecting layer on the back surface of the light guiding medium as effective to increase the scattering of light toward the front of the panel (Column 4 lines 45-48). Margerum teaches such an optimization of the panel as advantageous for use in particular display applications, such as in an automotive heads-up display (Column 4 lines 54-58).

Allowable Subject Matter

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose or suggest a display device having the features of claim 1 in which a quarter wave plate is provided at the output of each light pipe. Pollack discloses each of the features of claim 1, however, the prior art fails to disclose or suggest a quarter wave plate as provided at the output of each light pipe.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael H. Caley
October 18, 2005

mhc
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Andrew Schechter
ANDREW SCHECHTER
PRIMARY EXAMINER